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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	88.975	102.867	61.098	0.000	61.098	74.193	80.828	82.253	92.656	Continuing	Continuing
E25: MFG SCIENCE & TECH	67.047	68.109	61.098	0.000	61.098	74.193	80.828	82.253	92.656	Continuing	Continuing
EA2: MANTECH INITIATIVES (CA)	21.928	34.758	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
A. Mission Description and Budget Item Justification											
This program element (PE) demonstrates manufacturing processes that enable producibility and affordability of emerging and enabling technologies. Initiatives within the PE result in cost savings and reduced risk of transitioning military-unique manufacturing processes into production. This PE also fosters the transfer of new/improved manufacturing technologies to the industrial base, including manufacturing efforts that have potential for high payoff across the spectrum of Army systems and/or significant impact on national manufacturing issues (project E25). Major investment areas include Aviation Systems, Armor and Survivability, Sensors, Electronics and Power Systems, Precision Munitions and Armaments, and Flexible Displays. Project EA2 funds congressional special interest items. Work in this PE is related to, and fully coordinated with, PE 0603710A (Night Vision Advanced Technology), PE 0602303A (Missile Technology), PE 0602105A (Materials Technology), PE 0602618A (Ballistics Technology), PE 0602601A (Combat Vehicle and Automotive Technology), and PE 0603005A (Combat Vehicle and Automotive Advanced Technology) and PE 0602705A (Electronics and Electronic Devices).The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan. Work in this PE is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development, and Engineering Centers (RDECs).											

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities			
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	90.782	68.466	68.512	0.000	68.512
Current President's Budget	88.975	102.867	61.098	0.000	61.098
Total Adjustments	-1.807	34.401	-7.414	0.000	-7.414
• Congressional General Reductions		-0.539			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		34.940			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.616	0.000			
• SBIR/STTR Transfer	-2.423	0.000			
• Adjustments to Budget Years	0.000	0.000	-7.414	0.000	-7.414
Change Summary Explanation					
FY10 Congressionally directed increases.FY11 funding realigned to higher priority efforts.					

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0708045A: <i>End Item Industrial Preparedness Activities</i>				PROJECT E25: <i>MFG SCIENCE & TECH</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
E25: <i>MFG SCIENCE & TECH</i>	67.047	68.109	61.098	0.000	61.098	74.193	80.828	82.253	92.656	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>This project develops and demonstrates advanced manufacturing processes, equipment, and systems that enhance the quality and/or quantity of products, while achieving reductions in cost and/or transfer of improved manufacturing technologies to the industrial base. Efforts within this project have potential for high payoff across the spectrum of Army weapon systems, and significant positive impact on national manufacturing issues and the US industrial base. Current investment areas include: Aviation, Armor and Survivability, Sensors, Electronics and Power Systems, Precision Munitions and Armaments, and Display Technology. The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan. Work in this project is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development, and Engineering Centers (RDECs). The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan. Work in this project is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development, and Engineering Centers (RDECs).</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1 Aviation Systems - Embedded Sensor Processes for Aviation Component Structures (ESPACS): In FY09, formed stabilizer with composite manufacturing processes suitable for flexible substrates high adhesive binding tolerances. In FY10, demonstrate lamination production compatibility with airframe fabrication and insertion into Apache Block III. Low Cost Cabin Floor Structures: In FY09, showed high yield processing and manufacture of survivable, affordable, repairable airframe components. In FY10, integrate materials, design, and manufacturing process controls for airframe components. Automation of Blade Erosion Coating: In FY11, will increase manufacturing yield and efficiency of anti-corrosion spray coating processes that will increase blade life and quality over current manual coating process. Advanced Ceramic Manufacturing and Machining: In FY11, will						4.000	3.843	5.000	0.000	5.000	

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
evaluate high yield manufacturing processes enabling application of new Ceramic Matrix Composite technologies that can significantly improve thrust, fuel consumption, and reliability compared to current T-700 helicopter engine. Validate low cost manufacturing solutions for structural components and transition to program of record. UAS Class IV weight Reductions/Performance Improvement Initiative: In FY11, will analyze composite processes to include mold flow control and strength to enable use of lower weight materials. Will demonstrate low cost production of lightweight components which increase UAV performance. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO						
Program #2 Base Structural Armor: In FY09, demonstrated fabrication process controls of functional armor prototypes of laminated ceramics, composites, and model-centric based specifications of upper and lower hull materials suitable for combat and combat service support vehicles. In FY10, demonstrate manufacture of ballistic armor using hot pressed silicon carbide tiles, advanced ceramic composite lamination, and process controls to lower the cost, weight and material flaws for low rate production of combat vehicle modular armor. In FY11, will show production yield for ballistic and blast armors suitable for combat vehicles and add on protective modules with scalable protection requirements. Will show suitable base and add on armor production facilities to begin		14.092	14.695	13.293	0.000	13.293

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
transition of production protocols to Ground Combat Vehicle and other platform programs of record with these ballistic requirements. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO						
Program #3 Overlay Armor: In FY09, integrated production of stiffening materials and demonstrated producible, affordable armor manufacturing processes that include hybridized fibrous metal matrix composites and 3-D composites backing. Developed low cost grinding methods for transparent armors. In FY10, develop the automated specifications and process controls to demonstrate 3-D hybrid composite armor for large transparent armored apertures and structures. In FY11, will demonstrate and qualify ballistic and blast armors, add on protective modules and limited production of build-to-print armor with automated specification controls. Will demonstrate low yield automated assembly of ceramic composites suitable for the fabrication of Ballistic, Hull & Turret, and high yield production of affordable Silcon Carbide (SiC) and Titanium (Ti). Transparent Spinel Armor: Will show high yield fabrication capability for ceramic composites with reduced weight and improved ballistic protection. Will demonstrate manufacture process of spinel armor plates in sizes up to 600 square inch which will reduce cost and weight for tactical vehicles.		14.000	14.694	13.293	0.000	13.293

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #4 Low Cost Manufacturing of Materials for Improved Warfighter Protection: In FY09, integrated hydrostatic and multifunctional material technologies, and completed full-scale implementation into various manufacturing lines including the process for protective materials used on advanced combat helmets and soldier systems. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		2.271	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #5 Sensors: Infrared Focal Plane Arrays: In FY09, showed production line of Indium-Tin-Oxide process for 8-in substrates for use in focal plane array assemblies and demonstrated high yield process for integration circuits for design and optimization. In FY10, demonstrate high yield processes for protection systems. Micro-Displays: In FY11, will demonstrate 4 inch wafer line with increased production yield. Will use new pixel manufacturing line to produce 6 inch wafers with increased display contrast and color performance. Will produce initial lots of wafers to conduct tradeoff and selected initial process improvements. Will demonstrate production line of variable lot size, with increase in wafer yield and reduced surface defects. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		4.814	4.927	5.000	0.000	5.000
Program #6 Third Gen Infrared (IR) Dewar / Cooler Aperture: In FY09, integrated improved manufacturing components and processes for variable aperture and compact cold stage components to validate tooling documentation and performed manufacturing demonstration. In FY10, reduce weight, increase yield manufacture of cooled and uncooled systems and increase reliability and capacity for the optics used on guided weapons and surveillance sights. In FY11, will begin transition of optimized production process and configurations to combat and combat support program of record.		3.500	2.956	3.000	0.000	3.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #7 Software Defined Radio (SDR) Components: In FY09, completed system integration and validation of improved manufacturing technologies and processes for RF chipset, power amplifiers, and wide-band tunable filter for low rate production. In FY10, transition manufacturing technologies to Joint Tactical Radio System (JTRS), both ManPack and Small Form Fit systems. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		6.000	5.913	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO					
Program #8 Electronics/Power Systems - Silicon Carbide (SiC) Switches: In FY09, improved manufacturing techniques to produce 4 inch substrates, and reduced the manufacturing cost of low voltage diodes and switches by 20%. In FY10, show high efficiency manufacturing processes for SiC materials and reduced flaws in energy storage devices for electronic systems. High Definition Multi-band Focal Plane Arrays: In FY11, will increase focal plan array substrate diameter and growth yield, improve growth yield; will increase material growth and pixel fabrication processes to enable affordable large format, multi-color focal plane arrays for high definition infrared sensors that improve situational awareness and target detection. Will demonstrate low volume production of array and wafer size of 80 square centimeters. Chip Scale Atomic Clock: In FY11, will demonstrate vacuum environment manufacturing processes for components package of chip scale atomic clock. Will manufacture components packages with automatic filling techniques to improve yield. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	4.270	3.942	5.119	0.000	5.119
Program #9	3.772	2.807	2.500	0.000	2.500

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Very High Power (VHP) Batteries: In FY09, developed and demonstrated efficient manufacturing process that increased cell performance from 1 kilowatt to 3 kilowatts, while minimizing cell capacity loss from 40 percent to 20 percent. In FY10, complete battery certifications and transition production capabilities to support of combat vehicles and/or weapon systems. In FY11, will demonstrate and transition efficient production line with reduced flaws and automated specifications and process controls. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO					
Program #10 Low Cost Zinc Sulfide Missile Dome: In FY10, develop flow model to increase product yield of dome; develop extensive flow model and improve zinc sulfide (ZnS) chemical vapor deposition processes, and improve ZnS dome blank growth processes and improvements for demonstration and transition. In FY11, will optimize post-deposition treatments and scale-up reactor production for transition to PM NLOS-LS. FY 2009 Accomplishments: FY 2009	0.000	2.956	3.000	0.000	3.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #11 Precision Munitions/Armaments, Scale up of (PAX-3): In FY09, demonstrated efficient process and optimization of PAX-3 explosives suitable for dual purpose munitions. In FY10, show production on large scale for bunker defeat munitions. Grenade Initiation Module (GIM): In FY11, will show automated process for the assembly GIM that eliminates the manual processes and validate reliability of the automatic process. Multi-Purpose Warhead Manufacturing Improvement: In FY11, will demonstrate molybdenum fast jet manufacturing improvements and refine charge process. Cost Improvement of solventless propellant: In FY11, will show reduced cost production processes for solvent less propellant. High Explosive Material: In FY11, will improve processing technology using modeling and simulation to enable the production of new generation insensitive munitions formulation. Will install equipment and demonstrate lowered production cost (from \$5.00/lb to \$4.25/lb) and improve yield of key ingredients used in explosive formulations for 155mm artillery, 60 mm mortar and Spider munitions. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010	3.312	2.690	2.893	0.000	2.893

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #12 Laser Ignition: In FY09, developed metal-to-ceramic brazing process and manufacturing methodology for Artillery Laser Ignition System (LIS) components. In FY10, demonstrate prototype laser ignition diodes using new manufacturing processes. Demonstrate Phase I laser diodes production lines and crystal assembly production controls. In FY11, will complete transition of production specifications, methodology and brazing process controls. Will demonstrate manufacturing protocols for compact crystal assembly and electronics to facilitate full scale production of modular assembly accessed at MRL 8. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		2.004	1.971	3.000	0.000	3.000
Program #13		5.012	4.927	5.000	0.000	5.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Flexible Display Technology: In FY09, demonstrated pilot production lines to manufacture reflective and emissive 7.5 inch displays. In FY10, increase yield, and demonstrate improved processing for higher resolution micro displays. In FY11, will demonstrate sensor manufacturing processes and demonstrate flexible electronics integrated with flexible displays for reduced sensor power and improved computational performance. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO					
Program #14 Small Business Innovative Research/Small Business Technology Transfer Programs FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base	0.000	1.788	0.000	0.000	0.000

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<u>B. Accomplishments/Planned Program (\$ in Millions)</u>								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				67.047	68.109	61.098	0.000	61.098
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A								
<u>D. Acquisition Strategy</u> Not applicable for this item.								
<u>E. Performance Metrics</u> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.								

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
EA2: MANTECH INITIATIVES (CA)	21.928	34.758	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification Congressional Interest Item funding for Mantech Initiatives.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Legacy Aerospace Gear Drive Re-Engineering Initiative. In FY09, demonstrated a 3D model-based inspection, modeling and production process for helicopter gears to reduce cost and lead time. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO							1.994	1.990	0.000	0.000	0.000
Program #2							3.987	2.387	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Smart Machine Platform Initiative. In FY09, implemented a capability to manufacture parts with complicated part features more effectively. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO						
Program #3 Spring Suspended Airless Tires for Convoy Protection. In FY09, produced several full-scale HMMWV tire prototypes using the cast urethane process to demonstrate improved performance over "run flat" tires. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		2.790	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO								
Program #4 Manufacturing Metrology for Weapon System Production and Sustainment (M2WSPS). In FY09, developed software and processes to predict machine equipment needs capable of producing parts with required tolerances. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO				1.754	0.000	0.000	0.000	0.000
Program #5 Advanced Modeling Technology for Large Structure Titanium Machining Initiative. In FY09, demonstrated reductions in machine planning and tool costs associated using intelligent machine planning technology for machining gun tubes and other weapon system parts. FY 2009 Accomplishments: FY 2009				0.797	0.795	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #6 Vehicle Common Armor Manufacturing Process (VCAMP). In FY09, demonstrated automated welding of Titanium Armor using robotic welding for transition to Program of Record. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		1.994	0.000	0.000	0.000	0.000
Program #7 Superior Weapons Systems Through Castings. In FY09, demonstrated Net Shape molding which increased performance, allowed for lighter weight castings for both legacy and future systems.		1.595	1.592	0.000	0.000	0.000

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FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #8 Near-Net Shaped Direct-Sintered Silicon Carbide Torso Plates. In FY09, demonstrated sintered manufacturing torso plates which decreased weight and allowed for complex shapes. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	1.595	0.000	0.000	0.000	0.000
Program #9	1.435	1.194	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities		PROJECT EA2: MANTECH INITIATIVES (CA)		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Solid State Processing of Titanium Alloys for Defense Material Armaments. In FY09, demonstrated Solid State manufacturing of Titanium for vehicles which reduced scrap waste and decrease touch labor. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO						
Program #10 Network Centric Prototype Manufacturing. In FY09, Demonstrated manufacturing process data, captured during prototype hardware and will transition this data to manufacturers during production & sustainment which will reduce lead times, improve quality, and reduce costs. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		3.987	3.979	0.000	0.000	0.000

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities		PROJECT EA2: MANTECH INITIATIVES (CA)			
B. Accomplishments/Planned Program (\$ in Millions)							
			FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 OCO Plans: FY 2011 OCO							
Program #11 Spinel Transparent Armor Production Technology. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO			0.000	0.796	0.000	0.000	0.000
Program #12 Aging Weapons Systems Structural Repair. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010			0.000	1.194	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities	PROJECT EA2: MANTECH INITIATIVES (CA)			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #13 National Center for Defense Manufacturing and Machining. This is a Congressional Interest Item.	0.000	1.591	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #14 Achieving Lightweight Casting Solutions. This is a Congressional Interest Item.	0.000	1.592	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009					

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities	PROJECT EA2: MANTECH INITIATIVES (CA)			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO					
Program #15 Lightweight Magnesium Parts for Military Applications. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	0.000	1.592	0.000	0.000	0.000
Program #16 Improved Manufacturing Processes Demo Program for Army Tactical Vehicles. This is a Congressional Interest Item.	0.000	1.592	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army			DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities	PROJECT EA2: MANTECH INITIATIVES (CA)			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #17 High Performance Alloy Materials/Advanced Manufacturing of Steel Castings. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	0.000	2.387	0.000	0.000	0.000
Program #18	0.000	2.387	0.000	0.000	0.000

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities	PROJECT EA2: MANTECH INITIATIVES (CA)				
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
ARL 3D Model-Based Inspection and Scanning. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO						
Program #19 De-weighting Military Vehicles through Advanced Composites Manufacturing Technology. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		0.000	2.945	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0708045A: End Item Industrial Preparedness Activities		PROJECT EA2: MANTECH INITIATIVES (CA)		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #20 Precision Strike Munitions Advancement with Integrated Millimeter Wave Power Sources to Satisfy Army. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO		0.000	3.263	0.000	0.000	0.000
Program #21 Polymeric Web Run-Flat Tire Inserts for Convoy Protection. This is a Congressional Interest Item. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		0.000	3.482	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army				DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0708045A: <i>End Item Industrial Preparedness Activities</i>		PROJECT EA2: <i>MANTECH INITIATIVES (CA)</i>	
<u>B. Accomplishments/Planned Program (\$ in Millions)</u>					
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO
<i>FY 2011 OCO Plans:</i> FY 2011 OCO					
Accomplishments/Planned Programs Subtotals		21.928	34.758	0.000	0.000
<u>C. Other Program Funding Summary (\$ in Millions)</u> N/A					
<u>D. Acquisition Strategy</u> N/A					
<u>E. Performance Metrics</u> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.					

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